

one broad terminal one, of a blackish hue; but the tip itself is pale. The wings and tail, on their inner surface, are whitish, irregularly crossed with freckles of brown, disposed barwise.

The bird measured 27 inches by 60, and weighed 5 lbs.

VI.—*Synoptical Description of Sundry New Animals, enumerated in the Catalogue of Nipálese Mammals.* By B. H. HODGSON, Esq.

SCIUROPTERUS, Cuvier.

Species, *Alboniger*. Black and white.

Flying Squirrel, mihi.

Habitat, central and Northern regions of Nipál.

Sc. above black, faintly shaded with hoary or rufous; below, white, with a slight tinge of yellow; tail, concolorous with the body above, distinctly distichous, flattened, and rather shorter than the animal. Nude skin of lips, ears, and feet fleshy white. Snout to rump, 11 inches; tail, $8\frac{1}{4}$, without the terminal hair—9, with it; weight, 9 oz.

Observations. The sexes are alike: the young are pure black above, pure white below. The species has but six teats, four ventral and two inguinal. The intestines are 85 inches long, or eight times the length of the animal. They have a wide cæcum of nine inches in length, placed at 18 inches only from the anal extremity.

Species, *Magnificus*. Splendid.

Flying Squirrel, mihi.

Habitat, as above.

Sc. Above, intense chesnut, (the fruit;) below and the shoulders, golden red; tail, paler than the body above, and tipped black: a black zone round the eyes, and another embracing the mustachios; chin, pale, with a black triangular spot. Nude parts of skin, fleshy white. Tail, cylindrico-depressed, and considerably longer than the animal.

Parachute, large, enveloping six inches of the tail. Length of the animal, 16 inches, of the tail, 22; weight $3\frac{1}{4}$ lbs.

Observations. Sexes, essentially similar in colour. In old animals the chesnut colour tipt hoary, and, in the young, black tipt. In all, the tail, beyond the limits of the parachute, is paler than the superior surface of the body: and the black point is always present. So are the facial marks, though they be less conspicuous in young specimens. The intestinal canal is fourteen feet two inches long, or $10\frac{1}{2}$ times as long as the body; 8.8 to the cæcum; 5.6 below it. The

cæcum is 20 inches long, very capacious, and sacculated. This species breeds in the rains, and seems to produce but one young at a time. In September, the offspring are tolerably independent of their mother, but their flying membrane is much less developed than in maturity.

Genus, *SCIURUS*, Auctorum.

Species, *Lokriah*, mihi.

Habitat, as before.

Above, saturate brown, tipped with intense orange; below, and the thighs, deep orange. Tail, concolorous with the body above, distichous, flattened, and broad, with a double margin of black and hoary. Length from snout to rump, eight inches. Of the tail, $6\frac{1}{2}$ inches, without the terminal hair, equal to animal with it; weight 8 oz.

Species, *Lokroides*, mihi.

Very similar to the last, but has the inferior parts rufous hoary; the thighs, concolorous with the body above, and the tail narrower and void of marginal bands.

Observations. The sexes alike in both the above species. Teats, six in both*. Intestines, 66 inches, or but eight times the length of the body, and of uniform calibre throughout. At 15 inches from the anal extremity, a cæcum of four to five inches long, and double the calibre of the intestinal canal.

Genus, *FELIS*, Auctorum.

Species, *Viverriceps*, mihi. Sharp-faced Cat, mihi.

Habitat, open lowlands of lower region.

F. V. Wild cat, with subviverrine face, small ears, and short, slender, and tapered tail, reaching one inch below the os calcis. Above, and the neck, deep cat gray, or fulvous gray brown. Below, the head, tail, belly, and insides of the limbs, hoary. From the eyes to the root of the tail, four subcontinuous black lines: two more parallel to, and without, them, from the eyes to the shoulders; two perfect bands round the jaws, from the eyes: and three round the front of the neck and breast. Ears, black outside, with a large gray central spot, and rufous hoary on the inside. Body and limbs, wholly covered with roundish full black spots, having a sublinear disposition from the head towards the tail; the feet only, from the os calcis and top of the carpi, being immaculate. The tail exhibits above and below the ground colours of the body. On the upper surface, six or seven transverse bands, the two or three next the body, composed of dots, arranged linearly, and the terminal one being large, forming a blackish tip to the tail on that surface. Length, from snout to rump, 30 inches;

* In the Regne Animal, eight teats are assigned to the squirrels.

of the tail, $10\frac{1}{2}$ inches, or $11\frac{1}{4}$ with the hair : mean height, 15 : weight 17 lbs.

Observations. This species is affined to the Viverræ by the form of its face, and to the Lynxes, by the shortness of its tail, which extends but little below the os calcis. But it has no further resemblance to either : its ears being noticeably short and untufted ; its body, full, and its limbs, strong and of medial length. The females are nearly as large as the males, to which they bear a close external likeness. In the catalogue, this animal is called a variety of the Serval ; but the inspection of several specimens has satisfied me of its specific novelty. It is distinctly described in the catalogue, though summarily. The intestinal canal is more than three times the length of the body, and the cæcum is an inch long, with the diameter of the large gut, which is sensibly more capacious than the small.

Genus, FELIS. Subgenus, *Lynchus*.

Species, *L. Erythrotus*. Red-eared Lynx, mihi.

Habitat, all the three regions of Nipál, and abundant in all.

Lynx. Above, pale earthen brown, with a lively tinge of rusty red : below, clear, but pale ferruginous ; the body, immaculate ; the cubits on both aspects, and the femora externally, crossed with blackish zigzag lines ; tail slender, attenuated, and reaching one inch below the os calcis ; concolorous with the body towards the base, but towards the tip, paler and canescent, encircled with four or five blackish rings, and tipped with black ; lips, jaw, and a zone round the eye, posteally, pure white. Ears, externally intense, rusty red, with black tip and small pencil of the same hue ; their lining, rufescent white ; feet, from the os calcis and top of the wrist, downwards, pale rusty, immaculate, and blackened posteally.

Snout to rump, 22 inches ; mean height, 16 inches ; length of tail, 10, without the hair, 11 with it ; weight, 14 lbs.

Remarks. The female in this species is considerably less than the male, but neither sex nor nonage affects the marking of the animals. An imperfect state of the fur does so : for when the red-eared Lynx is moulting (so to speak), the sides of the body exhibit some vague, wavy, stripes, having a subvertical direction.

The tufts of the ears are always present, and the molar teeth *have* tubercles on the inner side, notwithstanding the general assertion of authors that the Lynxes want them. His lengthened limbs, large pencilled ears, and shortish tail proclaim this animal a Lynx. His resemblance indeed to the *Chaus* of RUPPEL is so very striking, that in the catalogue I identified him with that species. From the examination of numberless specimens, I am now satisfied, however, that our ani-

mal is specifically distinct from the Chaus, as well as from the Lybian Caracal, to which in some points of colouring, he bears a nearer likeness than to Chaus. This species is very ubiquitous, being equally common in all the three regions of Nepál. In the central and northern regions, he represents the wild cat, which is not a denizen of these mountains; nor (I think) of the plains of India.

The red-eared Lynx breeds twice a year, producing three or four kittens at a birth.

The intestinal canal of the species barely exceeds twice the length of the body, and is of nearly equal calibre throughout. The cæcum is but half an inch long, with a breadth somewhat less than that of the large gut. Preys on pheasants, partridges, hares, and rats: breeds in the woods, but wanders freely through the standing crops. One of them, a female, took up its abode, and bred, under the residency mansion, in the past year.

Genus *MUS*, Auctorum.

Subgenus, *RATTUS*, (Mus.)

Species, *R. Niviventer*. White-bellied Rat, mihi.

Above, saturate black brown: below, pure white; tail, considerably longer than the body, and paled on the inferior surface. Size and aspect of *Mus Rattus*.

Observations. For some time I took this animal to be a variety merely of the common types, but I have now ascertained that it is a distinct species*. It is invariably pure white below, and even the tail is paled on the abdominal aspect.

The tail, too, is considerably longer than in *Rattus*.

Species, *RATTUS. Nemorivagus*, mihi. Throughout, dusky brown: the centre of the belly only being paler and hoary blue; the bristles of the back, unusually long and numerous, but not erect or spiny; tail shorter than the body, size large; snout to rump, 12 inches. Length of the tail, $9\frac{1}{2}$; ears, tail, and members strictly assimilating with the ordinary type.

Remarks. The species avoids houses, dwelling in burrows in the fields, and more especially in the small woods. In the catalogue, it is called *Setifer*, to which species it bears much resemblance. The females have twelve teats.

Genus, *MANIS* auctorum.

Species, *Auritus*, mihi. Eared Manis.

Habitat, lower and central regions.

* In the central region of Nepál, there are four species of Rat, *Decumanus*, *Rattus*, *Niviventer*, and *Nemorivagus*. Each distinguished by an appropriate local name, and by some peculiarity of manners.

Manis, with rounded, naked ears, vertically developed; thick tail, more than one third shorter than the body; and scales forming 23 longitudinal series on the body and neck only. Snout to vent, 22 inches. Vent to tip of tail, 13. Weight, 12 to 14 lbs.

Remarks. In the English Regne Animal the genus Manis is said to be devoid of external ears. Presuming the correctness of this statement, I have indicated a remarkable peculiarity of the present species by the specific name Auritus. The external ear, though small, is perfectly distinct; the helix having a breadth or free exertion from the head, of more than half an inch, and a longitudinal course of one and an eighth inch, in a direction vertically transverse. In the catalogue, this animal is mentioned by the name of the short-tailed or common Indian species, (*M. Pentadactyla* of Linn.) with which I then supposed it to be identical. It differs however very materially, not only by the presence of ears, but by the much greater number of its scales. In our animal, the longitudinal series consists of 23 for the neck and body alone; there being also 10 for the head, and 19 for the tail. The *Manis Javanica* of DESMAREST is said to have a series of 17 for the body only. I presume our's yet exceeds this number. The general appearance of our animal is sufficiently assimilated to *Crasicaudata*; the body being rather full, though elongated, and the tail shorter than the body, and very thick at the base.

This latter member is flattened below; broadly convexed above; and its scales are shorter and wider than those of the body. The feet are pentadactylous; the colour of the scales, earthy brown, and of the nude skin, fleshly white. As I have been so fortunate as recently to witness the gestation and parturition of this species, and have been also enabled to note the animal's manners, with its anatomical structure, I purpose, ere long to give the results of these observations; and shall only add, on the present occasion, that if the incaution of authors only has led to the assertion, that the genus is earless, and the epithet *Auritus* affixed to our species thus cease to be characteristic, I would then suggest the trivial name *Plurisquamis*, or the many-scaled.

Genus VIVERRA.

Subgenus, MANGUSTA, (*Herpestes*.)

Species *Auropunctata*, mihi.

Habitat, the Central Region.

Mongoose. Of an uniform saturate olive brown, freckled with golden yellow, an aspect resulting from the five-fold annulation of each hair, with black and aureous; cheeks, more or less rusty; fur of the body, short, soft, and adpressed; $\frac{1}{2}$ an inch below os calcis furred; size small;

tail, shorter than the body, snout to rump, 11 inches ; tail, 9 or $10\frac{3}{4}$ with the hair.

Remarks. In this species, as in the following, the tail is pointed, much attenuated from a thick base, and clad in long lax hair. The naked skin of the lips and soles is fleshy brown : the iris, brownish yellow ; pupil, variable, but usually oblong and subtransverse ; digits, membraned crescentwise to the third phalanges. No anal pouch, but the folds of the skin on the caudal margin of the anus are subdilated and furnished with some scattered glandulous points below the surface, probably subservient merely to the lubrication of the parts. The animal emitting no peculiar odour.

The intestinal canal is 36 inches long, or more than three times the length of the body, and of equal diameter throughout. The cæcum is one inch long, and wide as the gut. The stomach has thickish coats, and is equally broad almost at either end. The molar teeth are bristled with points almost as in the Insectivora. In the catalogue, this animal is identified with the *M. Javanica* of HORSFIELD. But in the judgment of very competent persons, it is a distinct species. It differs materially from the common Mongoose of the plains, not only by its smaller size, softer shorter hair, and darker colour, but by a less vermiform habit of the body and shorter toes, the soles of which, in the hinder extremities, are less extended towards the os calcis.

Species *Nyula*, mihi.

The Nyúl of the plains. Habitat, the open Tarai.

Mongoose. Varied, with mixed rich red brown and hoary yellow, the ears, face, and limbs, redder and less maculate ; the neck and body below, pure pale yellow ; hair of the body and tail, long and harsh, with 10 to 12 rings of alternate brown and yellow ; toes, long, and in the hind extremities, nude to the os calcis ; tail, concolorous with the body above, pointed and equal to the body in length. Snout to rump, 15 inches ; tail, the same, or 18 with the terminal hair.

Remarks. This is the common Mongoose of the Nipalese lowlands, and of North Behar, and which is identified with *Cafra* vel *Grisea* in the catalogue, perhaps justly so : I leave it to others to judge. Both of the above species affect the cultivated fields when the crops are standing, and the grass after the crops are down. They live in burrows of their own making ; and the structure of their extremities is fossorial, but not typically so ; the nails being suited also to climbing trees, at which the animals are sufficiently expert.

The males are larger than the females ; and the young darker hued than their parents. The females breed in spring : have four ventral teats, and usually produce three or four young at a birth. The food

of both species consists of snakes, rats, mice, eggs, small birds, and grilli.

Mr. GRAY in some recent valuable remarks on the Viverridæ, observes, that the Mungoses have "long, slender, and free toes, and anal pouches of greater or less depth." I have again and again examined fresh specimens of Nyúla and of Auropunctata, with a view to these assertions, but the result of my observations is that they are almost wholly erroneous. Neither in the highland nor lowland animal is there any semblance of an anal pouch; and the toes of both are connected by a membrane as far forwards as the hinder edge of the third phalanx. In Nyúla, indeed the toes are elongated, and the hind feet nearly nude to the heel. In Auropunctata, however, the toes have but a medial length, and the fur reaches fully half an inch below the point of the heel.

The fact is, that the structure of the Mongoose, though digitigrade upon the whole, is by no means typically so: and, in the slow stealthy motion to which they are much accustomed whilst questing for their prey, they use the plantigrade action. Their nails are fossorial in the main; and, like most diggers, these animals incline somewhat to the plantigrade structure and movement. In fact, they lead off from the typical digitigrades towards the plantigrades, through the Paradoxuri, the Gluttons and the Rattels; still, however, retaining the shortish toes and lengthened compact metatarsi of the digitigrades.

Tribe, PLANTIGRADES.

Genus, GULO. English Regne Animal.

Species new. *Gulo Nipalensis*, mihi.

Habitat, Central region of Nipal.

G. Above, earthy brown: below, with the edge of the upper lip, the insides of the limbs, and terminal half of tail, yellow; a white mesial stroke from the nape to the hips, and a white band across the forehead, spreading on the cheeks and confluent with the pale colour of the animal's lower surface: head and body vermiformed; digits and nails of the anterior extremities stronger; half way from the os calcis to the fingers, hairy; fur of two sorts, and abundant, but not lengthened or harsh, nor annulated: tail, cylindrico-tapered, pointed, half the length of the animal; snout to rump, 16 inches; tail, $7\frac{1}{2}$, or 9 with the terminal hair.

Remarks. In the catalogue, this animal is identified with the *Gulo Orientalis* of Java (apud HORSFIELD), which is at all events, the insular analogue of our's. The cheek teeth are $\frac{5}{8}\frac{5}{8}$ and the animal consequently belongs to genus *Gulo*, as defined in the English Regne Animal.

The form of this species is decidedly Musteline from the snout to the tail; and not merely the head, with its several external organs, but the skull also bears a close resemblance to those of *Martes* and *Putorius*. The anterior limbs, however, are decidedly fossorial, and the hinder suited for walking in a subplantigrade manner: *both* wholly unfitted for raptatory or scansorial purposes.

Genus *GULO*. Species new.

G. Urva, mihi. Habitat, Central and Northern Regions.

Urvá of the Nipálese.

G. Urvá. Above and the sides jackal colour, or fulvous iron gray; abdominal aspect of the neck, chest, and belly, with the entire limbs, dusky brown, a lateral band on either side the neck, from the gape to the shoulders, white; size and aspect of the preceding; fur of two sorts, and very abundant; hair very long, and laxly set on; quadrannulated with black and fulvous; anterior and posterior extremities of equal strength, and the nails simply ambulatory, being suited neither to raption, scansion, nor digging; for the rest, the general form of the feet as in the preceding,

P. S. The whole of the above animals were discovered by me several years back (1823-1829), and might have been described much sooner, had I not deemed it improper to hazard the multiplication of imaginary species by characterising from one or two specimens. There is not one of these species of which I have not procured several specimens at all seasons, and either alive or just killed. The indications of the catalogue are such as to entitle me to date from its publication (originally in 1829). But, in truth, my object has been, and is, much less to share in the scramble of nomenclators, than to ascertain the habits and structure of species.

Nothing is so vague at present as the true limits of species, and as my *first* aim was rather to find resemblances than differences, so perhaps it might wisely have been my *last*.

If, however, any person who chances to lay hold upon a single shrivelled skin, may forthwith announce a new animal, the real student of nature must be content to leave what is called discovery to the mere nomenclator; and the science must continue to groan under an increasing weight of fictitious species.

B. H. H.